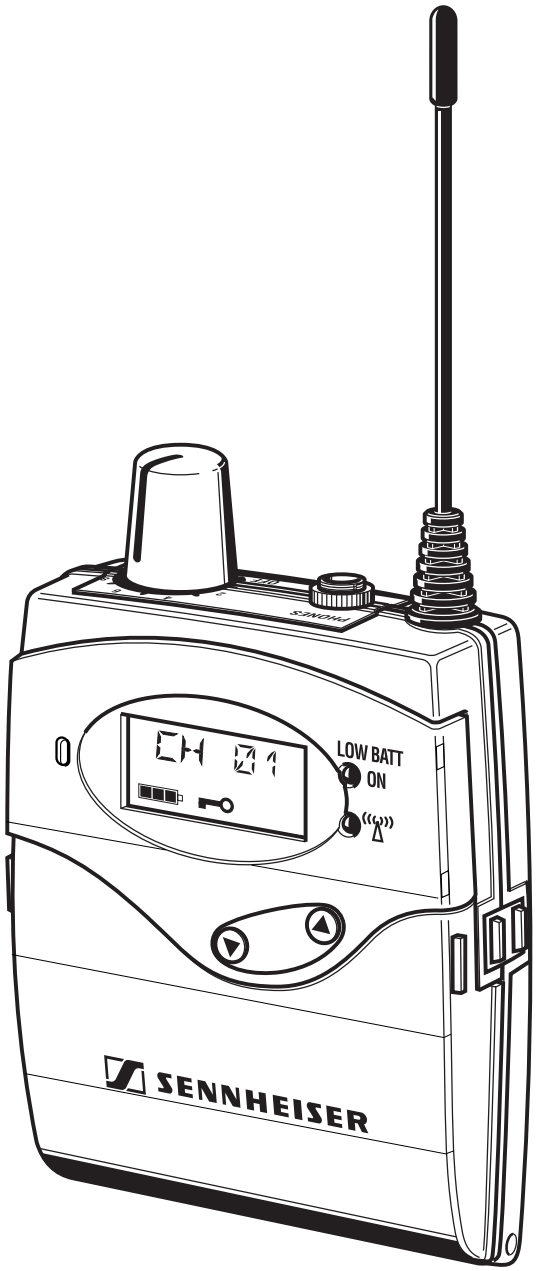
SENNHEISER

tourguide UHF

Instructions for use



Thank you for choosing Sennheiser!

We have designed this product to give you reliable operation over many years. Over half a century of accumulated expertise in the design and manufacture of high-quality electro-acoustic equipment have made Sennheiser a world-leading company in this field.

Please take a few moments to read these instructions carefully, as we want you to enjoy your new Sennheiser products quickly and to the fullest.

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The tourguide UHF system

The tourguide UHF system consists of the EK 1038 receiver in combination with a transmitter of the evolution wireless series G2. The system offers optimum speech transmission for guided tours and interpretation applications with one or several speakers. The use of RF transmission allows freedom of movement for all members of the group. Due to the possibility of combining the EK 1038 receiver with different transmitters, the system can be optimally adapted to your individual needs.

The system has superb audio quality with an increased signal-to-noise ratio and dynamic range due to the inclusion of Sennheiser's HDX noise reduction system.

System components

The components of the system are:

- EK 1038 receiver
- BA 2015 accupack
- L 2015 charger
- NT 1 or NT 3 plug-in mains unit
- GP 03 headphones with stereo jack plug
- transmitter (please specify when ordering)

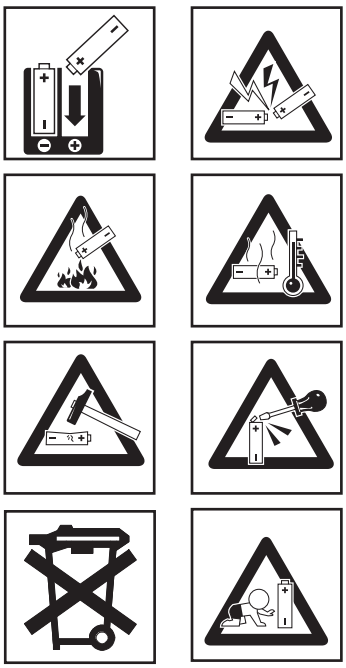
Safety instructions

Never open an electronic unit! If units are opened by customers in breach of this instruction, the warranty becomes null and void.

Use the unit in dry rooms only.

Use a damp cloth for cleaning the unit. Do not use any cleansing agents or solvents.

Safety instructions for handling rechargeable batteries



When used properly, rechargeable batteries are a safe and reliable energy source.

However, if abused or misused, rechargeable batteries may leak and, in extreme cases, may even present an explosion and fire hazard. Please understand that Sennheiser does not accept liability for damage arising from abuse or misuse. Especially observe the following safety instructions:

- Observe correct polarity.
- Never short-circuit rechargeable batteries.
- Do not throw rechargeable batteries into fire.
- Never heat rechargeable batteries.
- Do not mutilate or dismantle rechargeable batteries.
- To protect the environment, dispose of batteries that are no longer usable as special waste or return them to your specialist dealer.
- Store rechargeable batteries in a safe place and keep them away from children.

EK 1038 receiver

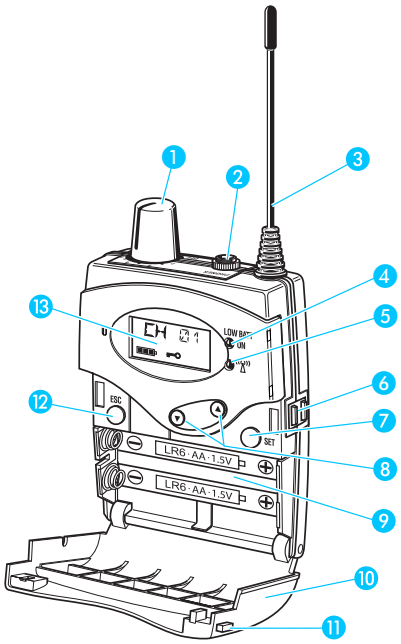
Special features

The EK 1038 receiver is a small and reliable bodypack receiver that can easily be attachted to the clothing by the means of a belt clip. 16 factory-preset UHF frequencies which are intermodulation-free and four freely selectable frequencies ensure a high level of flexibility and operational reliability. In combination with the HDX noise reduction it provides for a safe transmission.

The receiver is characterized by

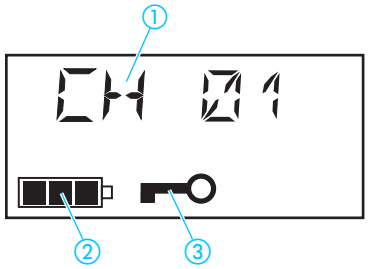
- Easy use
- Channel-indication via display
- Channel adjustment via rocker button
- LED operation indication
- LED and display "LowBattery" indication
- LED receiving indication

Operating controls



1. Volume control and On/Off button
2. 3.5 mm jack socket for headphones
3. Receiving antenna
4. Red LED for operation and battery status indication (LOW BATT/ON)
5. Green LED for RF signal indication
6. Charging cotacts
7. SET button
8. ▲/▼ rocker button (UP/DOWN)
9. Battery compartment cover
10. Battery compartment cover
11. Unlocking button
12. ESC button
13. Display

Indications

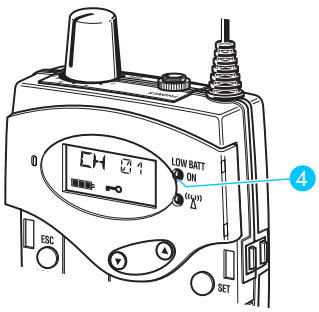


① Alphanumeric display

② 4-step battery status display

③ Lock mode icon (lock mode is activated)

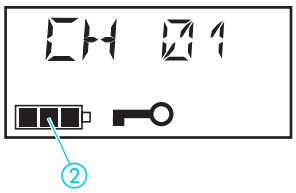
Operation and battery status indication



The red LED (LOW BAT/ON) 4 provides information on the current operating state of the receiver:

Red LED lit up: The receiver is switched on and the capacity of the batteries/rechargeable battery BA 2015 is sufficient.

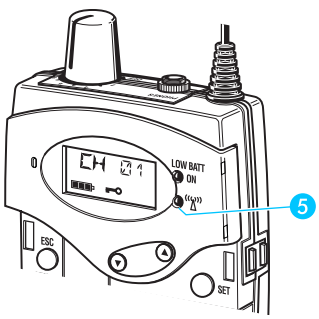
Red LED flashing: The batteries are/the rechargeable battery BA 2015 is going flat (LOW BAT)!



In addition, the 4-step battery status display 2 on the display panel provides information on the remaining battery/rechargeable battery BA 2015 capacity:

3 segments:	capacity approx. 100 %
2 segments:	capacity approx. 70 %
1 segment:	capacity approx. 30 %
Battery icon flashing:	LOW BAT

RF signal indication



The green LED (RF) 5 at the front of the receiver lights up when an RF signal is being received.

However, the green LED (RF) does not light up when the audio output is muted because the RF signal of the received transmitter is too weak.

Display backlighting

After pressing a button, the display remains backlit for approx. 15 seconds.

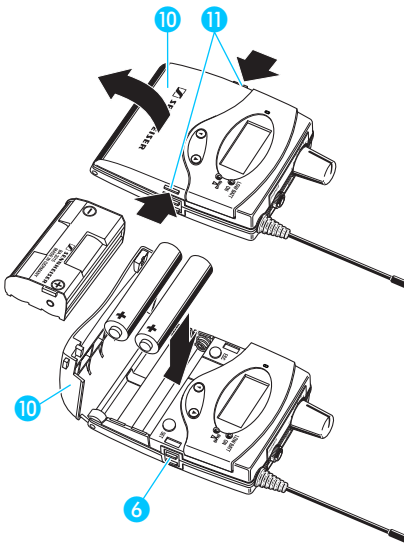
Preparing for use

Inserting and changing the battery pack/batteries

For powering the units, we recommend using the supplied BA 2015 battery pack. The battery pack can be recharged in the L 2015 charger while remaining in the receiver (see "Charging the rechargeable battery BA 2015" on page 24).

Accupacks ensure economical and environmentally friendly operation of the tourguide UHF system during daily use.

If no power supply is available for recharging the battery pack, you can alternatively use 1.5 V AA size batteries.



- Press the two unlocking buttons 11 and open the battery compartment cover 10.
- Insert the battery pack or the batteries as shown on the left. Please observe correct polarity when inserting the battery pack or the batteries.
- Close the battery compartment. The battery compartment cover 10 locks into place with an audible click.

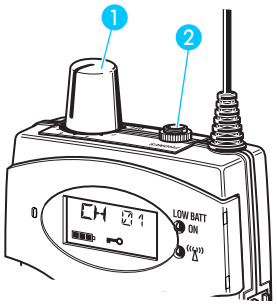
How to properly use the battery pack or the batteries

For battery pack operation, only use the BA 2015 battery pack in order to ensure optimum operational reliability. Batteries and rechargeable battery cells have different discharging curves. The receiver is able to identify the BA 2015 battery pack and to use it to full capacity. It also adapts the battery status display according to the type of power supply used (batteries or battery pack). Individual rechargeable battery cells will not be identified as battery packs.

- After use (e.g. during the night), charge the BA 2015 battery pack of the receiver in the L 2015 charger. The charging time is approx. 2.5 hours, at which time the unit then switches to trickle charging.
- If you do not use the receiver for extended periods of time (e.g. while you are on holiday), remove the battery pack or the batteries. After three months at the latest, the battery packs will need a refresh charge in the L 2015 charger. This prevents damage to the battery pack due to self-discharge.

Connecting the headphones

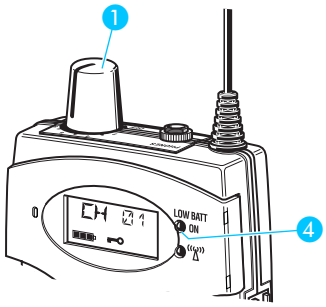
You must only connect headphones with a stereo jack plug and a minimum impedance of 8 Ω to the receiver.



- Connect the headphones to the receiver's 3.5 mm jack socket (PHONES) 2.

Using the receiver

Switching the receiver on/off



▶ To switch the receiver on, turn the volume control 1 clockwise until it clicks. The red LED 4 lights up and the current number is displayed.

Note:

- The receiver has a short switch-on delay.
- Remove the batteries or the rechargeable battery when the receiver will not be used for extended periods of time.

▶ To switch the receiver off, turn the volume control 1 counterclockwise until it clicks. The red LED 4 and the standard display go off.

Note:

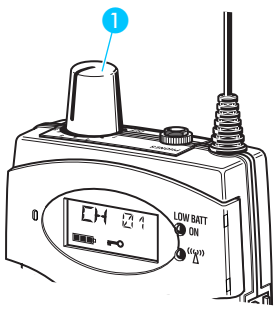
If you insert the active receiver into the L 2015 charger to recharge it, the receiver automatically gets off. It even remains inactivated when you take it out of the charger. Then you will have to primary switch it off and then on again as described above.

Adjusting the volume

You can adjust the volume at the headphone output on the transmitter.

Attention! High volume!

Even short exposure to high volume levels will damage your hearing!
Set the volume for the connected headphones to the minimum before putting the headphones on.



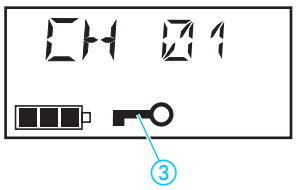
▶ Adjust the volume of the connected headphones via the volume control button 1 so that you can clearly and precisely understand the speaker.

Volume up? – NO!

When people use headphones, they tend to choose a higher volume than with loudspeakers. Listening at high volume levels for long periods can lead to permanent hearing defects. Please protect your hearing, Sennheiser headphones have an excellent sound quality even at low volumes.

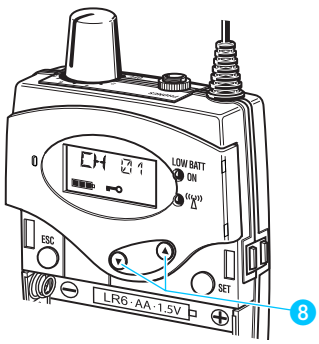
Switching the channel

If several guided tours take place within a building and several transmission links are operated at the same time, the user can switch the channel of the receiver to the channel that is stated by the guide.



Note:

It is only possible to switch the channel if the lock mode is deactivated. If it is deactivated, no lock mode icon ③ appears on the display (see "Activating/deactivating the lock mode" on page 18).

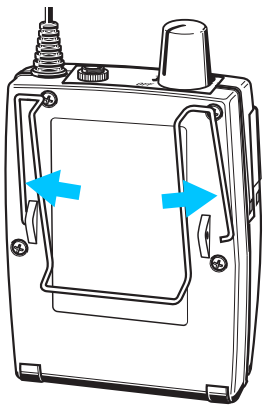


▶ Use the ▲/▼ rocker button (UP/DOWN) ⑧ to switch between the 20 channels maximum.

The number of selectable channels might be limited when the operator has locked several channels (see "Locking channels for the user" on page 19). Locked channels are not displayed.

The receiver immediately switches to the new channel. If a transmission signal is received on the new channel the green LED ⑤ lights up.

Attaching the receiver to clothing



▶ The receiver is attached to clothing (e.g. belt, waistband) with the supplied belt clip.

The operating menu of the receiver

The operationg menu of the receiver consists of the user menu and the setup menu.

Within the user menu, the user can switch between the channels via the ▲/▼ rocker button (see "Switching the channel" on page 12).

Within the setup menu, the operator can configure the receiver for daily use.

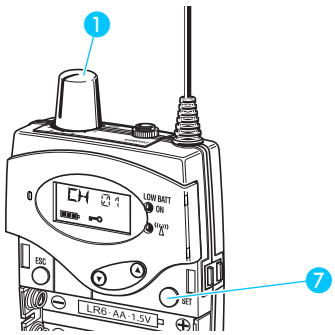
Configure the receiver

SETUP

This section describes how to use the setup menu. An overview over the menu is given within the chapter "The setup menu of the receiver" on page 17.

Starting the setup menu

In order to get into the configuration menu, the receiver must be switched off.

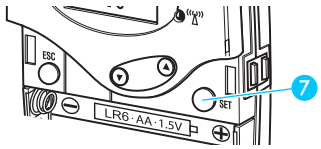


- Open the battery compartment.
- Press the SET button 7 and keep it pressed.
- At the same time, turn the volume control 1 clockwise until it clicks to switch the receiver on. The "SETUP" display appears on the display panel.

Function of the buttons in the setup menu

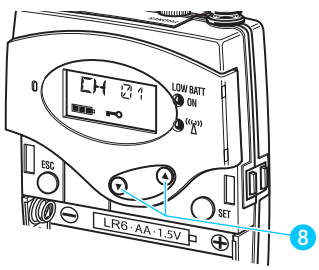
Buttons	Mode	To ...
SET	Start display	get from the start display "SETUP" to the operating menu of the setup menu
	Operating menu	get into the setting mode of the selected menu
	Setting mode	store the settings and return to the top menu level
▲/▼	Start display	without function
	Operating menu	change to the previous menu (▲) or change to the next menu (▼)
	Setting mode	adjust the setting of the selected menu: option (▲/▼)
ESC	Start display	without function
	Operating menu	cancel the adjustment and return to the start display "SETUP"
	Setting mode	cancel the entry and return to the start display "SETUP"

Getting into the operating menu of the setup menu



▶ Press the SET button 7 to get from the start display into the operating menu. The first menu "LOCK" flashes on the display.

Selecting a menu

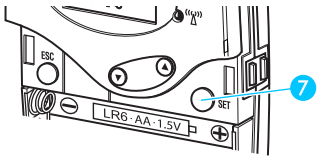


Press the ▲/▼ rocker button (UP/DOWN) to select the menu you would like to adjust the setting.
The current setting that can be adjusted flashes on the display.

The setup menu comprises four menus that can be chosen in the following order:

Display	Function of the menu
LOCK	Activating/deactivating the lock mode (see page 18)
TUNE	Setting a receiving frequency for the channels (see page 18) and locking channles for the user (see page 19)
SQELCH	Adjusting the squelch threshold (see page 19)
LTD	Acitvating/deactivating the limiter at the headphone output (see page 20)

Getting into the setting mode of a menu



- Press the SET 7 button to get into the setting mode of the selected menu.
  The current setting that can be adjusted flashes on the display.

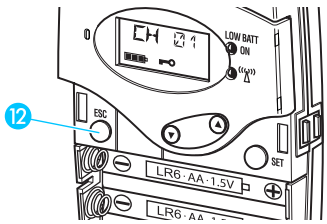
Adjusting a setting

- Press the ▲/▼ (UP/DOWN) 8 rocker button to adjust the setting of the menu.
  The new setting flashes on the display.
- By briefly pressing the rocker button, the display jumps either forwards or backwards to the next setting. In the "TUNE" menu, the rocker button features a "fast search" function: If you hold down the ▲ or ▼ button, the display cycles continuously, allowing you to get fast and easily to your desired setting. The new setting flashes on the display until it is stored.

Storing a setting

- Press the SET button 7 to store the setting. "STORED" appears on the display, indicating that the setting has been stored. You return to the operating menu of the setup menu. The last menu selected flashes on the display.

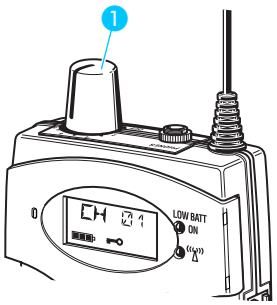
Canceling the entry



Press the ESC button 12 to cancel the entry. With the menus "LOCK", "SQUELCH" and "LTD" you return to the start display "SETUP". The last menu remains unchanged.

An exception is the "TUNE" menu. When canceling the entry with this menu, you will stay in the setting mode of the menu but you return to the display of the current channel (e.g. "CH 01"). It is then possible to restart your entry.

Exiting the setup menu

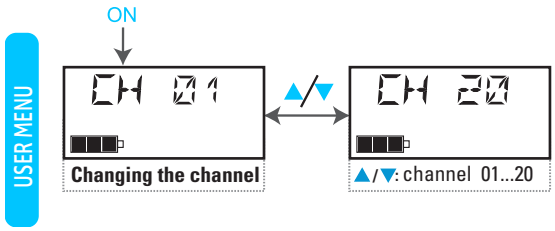


- Switch the receiver off to exit the setup menu. To do so, turn the volume control 1 counterclockwise until it clicks

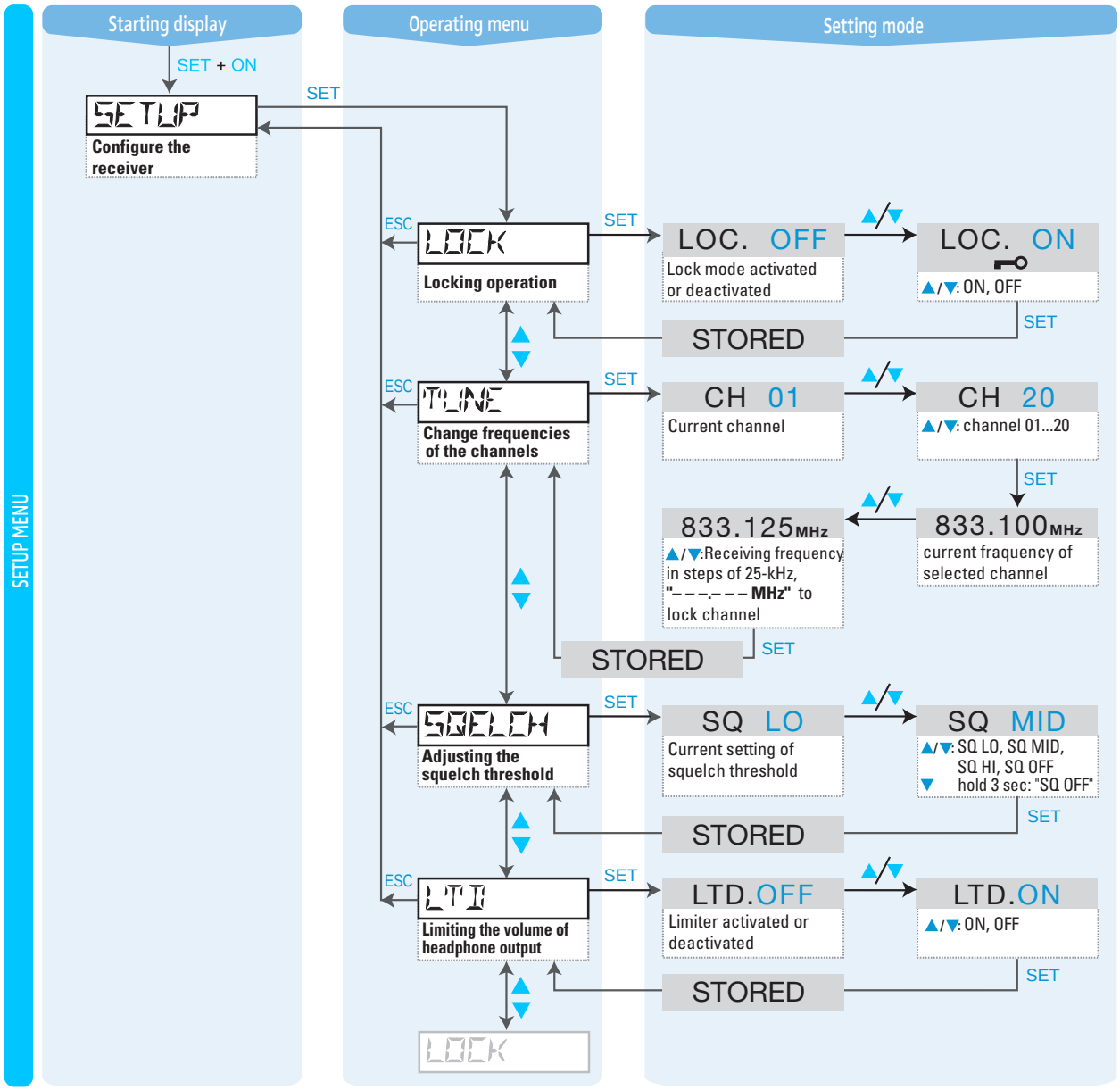
  If you then restart the receiver you get into the user menu and the current channel is displayed.

Operating menu of the receiver

The user menu of the receiver



The setup menu of the receiver

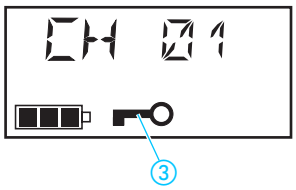


Adjustment tips for the setup menu

LOCK

Activating/deactivating the lock mode

Via the "LOCK" menu, you can activate or deactiveate the lock mode. This mode locks the ▲/▼ rocker button (UP/DOWN) so that the user cannot change the preset channel.



The lock mode icon on the display of the user interface (user menu) indicates that the lock mode is activated.

To deactivate the lock mode you have to select "LOC.OFF" within the menu "LOCK" of the setup menu.

TUNE

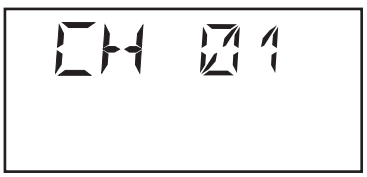
Changing the receiving frequencies of the channels

Via the "TUNE" menu you can change the receiving frequency of a channel or you scan lock certain channels (see "Locking channels for the user" on page 19).

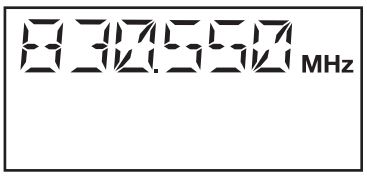
16 of 20 channels do have factory-preset receiving frequencies. These frequencies do not cause any intermodulation interferences and they ensure a safe and trouble-free reception even if several transmission links are operated simultaneously.

Note:

The receiving frequency of the receiver must exactly correspond to the transmission frequency of the transmitter!



- Select the "TUNE" menu to change these frequencies or to enter the receiving frequencies for the channels 17 to 20.
  The current channel is flashes on the display.
- Use the ▲/▼ rocker button (UP/DOWN) to select the channel whose frequency you would like to change.
  The selected channel flashes on the display.
- Press the SET button to confirm your selection.
  The current receiving frequency of the selected channel flashes on the display.



- Use the ▲/▼ rocker button to select the desired receiving frequency. Receiving frequencies are tunable in 25-kHz steps
  The selected receiving frequency flashes on the display.
- Press the SET button to store the new receiving frequency.

TUNE

Locking channels for the user

Via the "TUNE" menu you can lock certain channels so that the user cannot select them. This makes sense when several guided tours take place at the same time and several transmission links are operated simultaneously. As only the selectable channels are displayed, the user can quickly switch to the channel stated by the guide.

Select the channel you like to lock as described within the chapter "Changing the receiving frequencies of the channels" on page 18 and confirm your selection by pressing the SET button.

The current receiving frequency of the selected channel flashes on the display.

- Use the ▲/▼ rocker button (UP/DOWN) to select the character string "---.---". This string follows the frequency 866.000 MHz and precedes 830.000 MHz.
- Press the SET button to store your setting.

  This channel is now locked is no longer displayed for the user.

Releasing locked channels

Via the "TUNE" menu you can release locked channels.

- Select the channel that you would like to release.
- Use the ▲/▼ rocker button (UP/DOWN) to select the frequency that you would assign to the channel.
- Press the SET button to store the setting.
- The user can now select the channel again.

SQELCH

Adjusting the squelch threshold

The receiver is equipped with a squelch that can be adjusted via the "SQELCH" menu. The squelch eliminates annoying noise when the transmitter is switched off. It also suppresses sudden noise when there is no longer sufficient transmitter power received by the receiver.

Note:

Before adjusting the squelch threshold to a different setting, use the volume control (1) to set the volume for the connected headphones to the minimum.

There are three possible squelch settings:

- SQ LO = low
- SQ MID = middle
- SQ HI = high

Selecting the setting "SQ LO" reduces the squelch threshold, selecting the setting "SQ HI" increases the squelch threshold.

▶ Adjust the squelch threshold – with the transmitter switched off – to the lowest possible setting that suppresses hissing noise.

IMPORTANT!

Note:

- If the squelch threshold is adjusted too high, the transmission range will be reduced. Therefore, always adjust the squelch threshold to the lowest possible setting.
- When in the setting mode of the "SQELCH" menu, pressing the ▼ button for more than three seconds will switch the squelch off. "SQ.OFF" flashes on the display. If no RF signal is being received, hissing noise will occur. This setting is for test purposes only.

LTD

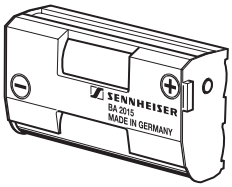
Limiting the volume at the headphone output

Via the "LTD" menu, you can switch the limiter on and off. With the limiter switched on, the maximum possible volume of the headphone output will be reduced about approx. 15 dB.

Note:

The receiver is preset so that the limiter is switched on. We recommend to keep the limiter switched on all the time.

L 2015 quick charger



Special features

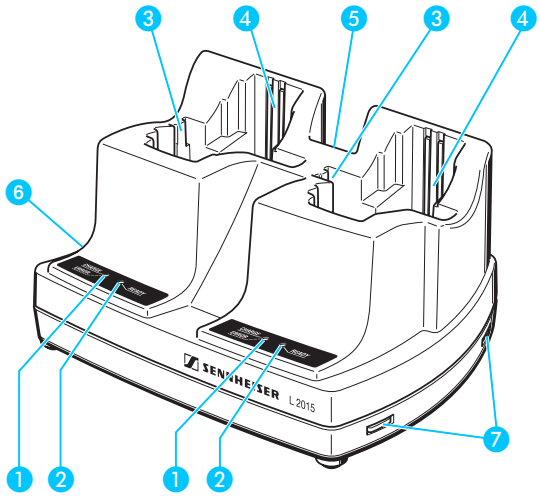
The L 2015 quick charger must only be used for automatically charging BA 2015 battery packs – individual rechargeable battery cells or primary cells cannot be charged! The BA 2015 battery pack is delivered as accessory with the EK 1038 receiver and fits to the Sennheiser bodypack receivers ew series G2 as well (see "SK 100 G2 / SK 300 G2 / SK 500 G2 bodypack transmitters" on page 32).

The EK 1038 receiver and the SK bodypack transmitters have charging contacts on their sides and can thus be charged with the accupack inserted in the L 2015 charger. When placed into the charger, the transmitters and receiver automatically switch off.

Features of the charger:

- Quick charge in approx. 2½ hours (with completely discharged accupacks and room temperature).
- Automatic detection of full charge and subsequent switching to trickle charge so the accupacks can remain in the charger even when they have been fully charged.
- Highest possible operational reliability, since correct insertion, temperature and voltage of the accupacks are monitored during charging.
- Up to two accupacks can be charged – optionally separately or inserted in the transmitter or receiver – separatly.
- Several chargers can be cascaded together to form a larger charging station which can be powered by a common mains unit (see "Accessories and spare parts" on page 53).

Operating controls



1. Red LED CHARGE/ERROR (2 x)
2. Green LED READY (2 x)
3. Charging compartment for BA 2015 rechargeable battery (2 x)
4. Charging compartment for EK 1038 or bodypack transmitters of the evolution wireless G2 series (2 x)
5. Air vent
6. Mains connection
7. Guiding slot with internal rail (2 x)

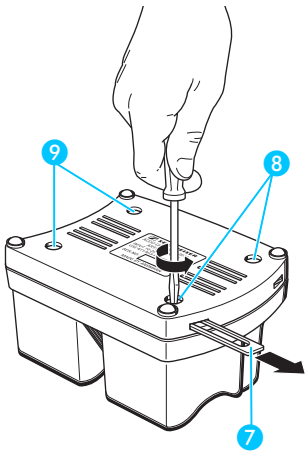
LED indications

Each charging compartment has two LEDs which indicate the following operating states:

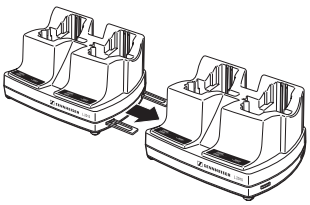
No LED lit:	The charging compartment is ready for operation (provided that the charger is connected to the mains), no rechargeable battery is identified.
All LEDs briefly light up one after the other:	The charger has been connected to the mains and is carrying out a self test.
Red LED 1 lit:	The rechargeable battery is being charged.
Red LED 1 flashing:	A problem has occured (see ''Troubleshooting'' on page 50).
Green LED 2 lit:	The rechargeable battery is fully charged and the charger has switched to trickle charging.

Preparing for use

Cascading several chargers



- Make sure that the charger is disconnected from the mains.
- Unscrew the two screws 8 at the right bottom side of the charger.
- Slide the two rails 7 out of the guiding slots and screw them tight using the two screws 8.
- Unscrew the two screws 9 at the left bottom side of the second charger.
- Slide the second charger onto the rails of the first charger and screw the rails tight using the two screws 9.
- Up to three chargers can be cascaded together with the rails and can by powered by a common mains unit..



Numbers of chargers	Mains unit requiredl
1	NT 1
up to 3	NT 3

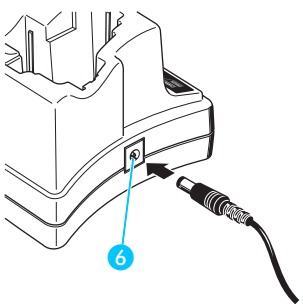
Setting up the charger

The charger has four plastic feet to ensure that it cannot slip on the surface on which it is placed.

Attention!

Some furniture surfaces have been treated with varnish, polish or synthetics which might cause stains when they come into contact with other synthetics. Despite a thorough testing of the synthetics used by us, we cannot rule out the possibility of staining.

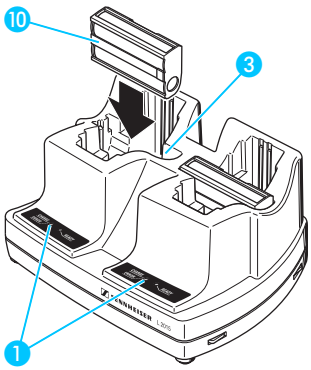
Switching the charger on or off



- To switch the charger on, insert the hollow jack plug on the cable of the mains unit (mains unit must be ordered separately) into socket 6.
- Connect the mains unit to the mains.
  All LEDs briefly light up one after the other.

Using the charger

Charging the rechargeable battery BA 2015



▶ Insert the rechargeable battery ⑩ into one of the two charging compartments ③ as shown.
The red LED ① at the occupied charging compartment lights up.

Charging a completely discharged rechargeable battery takes approx. 2½ hours at room temperature. It is normal for the accupacks to get warm during charging.

However, the charging process may take longer if:

- the rechargeable battery is deep-discharged and first has to be reconditioned by a deep discharge recovery charge,
- the ambient temperature is close to or over 40 °C, since, in order to protect the accupack, the charging process will be interrupted until the rechargeable battery temperature has fallen to an admissible value.

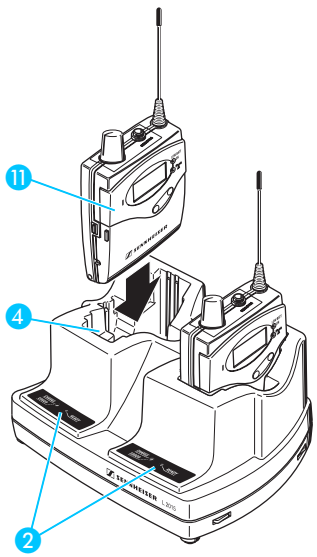
For safety reasons, the charging process will be interrupted and the red LED ① will start flashing if:

- excessively hot accupacks cannot cool down,
- an rechargeable battery cannot be fully charged within the max. charging time of 6 hours, e.g. due to overaged cells.

▶ After the rechargeable battery has been fully charged, the green LED ② lights up.

Note:

For charging, the accupacks can remain in the unit. Place the unit ⑪ with the rechargeable battery inserted into the charging compartment ④ as shown. The receiver or the transmitter automatically switch off.



Care and maintenance

Use a slightly damp cloth to clean the switched-off charger from time to time. Use a brush or similar to remove dust from the charging compartments. Do not use any cleansing agents or solvents.

Suitable transmitters of the evolution wireless series, G 2

The EK 1038 bodypack receiver matches any of the transmitters (range E) of the Sennheiser evolution wireless series G 2:

- Radiomicrophones: SKM 100 G2 / SKM 300 G2 / SKM 500 G2
- Bodypack transmitters: SK 100 G2 / SK 300 G2 / SK 500 G2
- Plug-on transmitters: SKP 100 G2 / SKP 500 G2

The SK 2015 bodypack transmitter of the 2015 system from the domain of audiology also fits to the EK 1038 bodypack receiver.

Note:

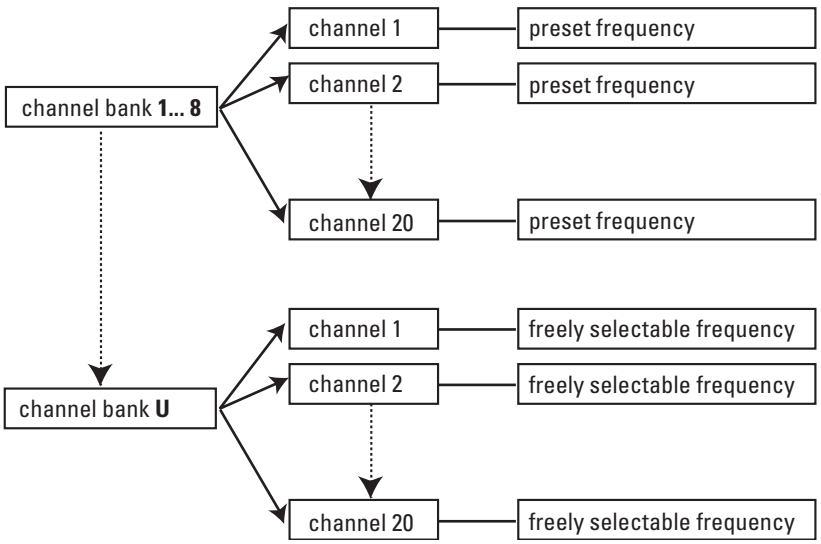
To put the system into operation, transmitter and receiver must be set to the same frequency!

The channel bank system

The system is available in the UHF frequency range from 830 to 866 MHz with 1440 transmission frequencies. Transmitters that are to be combined with the EK 1038 bodypack receiver thus have to use the following transmission range:

Range E: 830 to 866 MHz

The transmitters have nine channel banks with up to 20 channels each.



Each of the channels in the channel banks "1" to "8" has been factory-preset to a transmission frequency (see enclosed frequency table). These transmission frequencies cannot be changed but have been preset so that e.g. country-specific regulations on frequency usage are taken into account.

The channel bank ''U'' (user bank) allows you to store your selection out of 1440 transmission frequencies that are freely selectable within the preset frequency range.

Note:

The tourguide frequencies are preset on the channel bank ''8''.

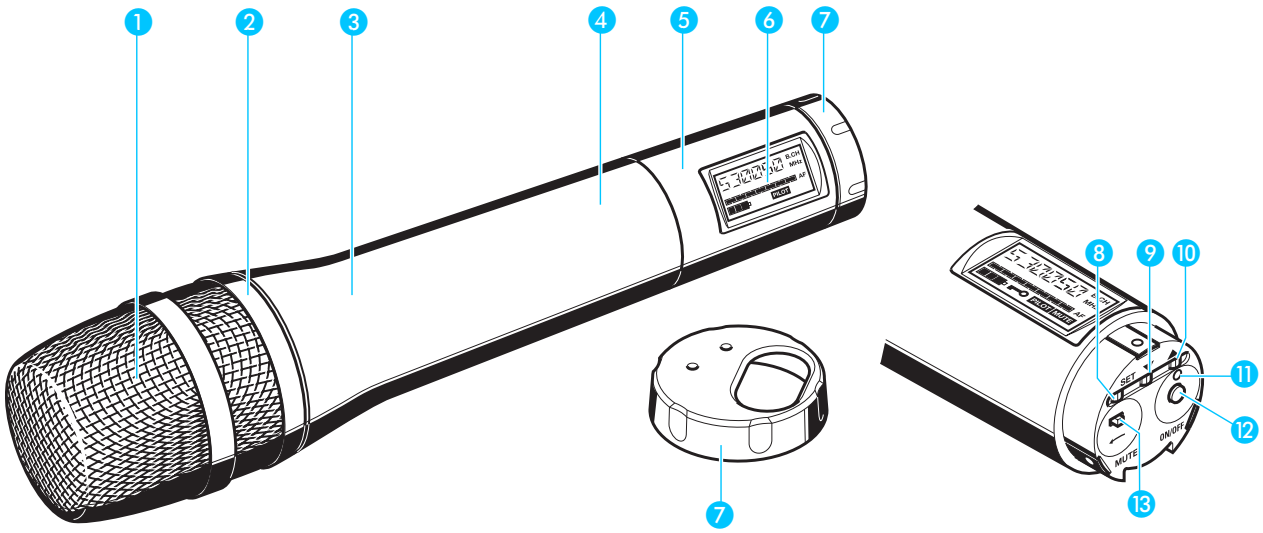
SKM 100 G2 / SKM 300 G2 / SKM 500 G2 radiomicrophones

Delivery includes

The packaging contains the following items:

- 1 radiomicrophone
- 2 batteries
- 1 microphone clamp
- 1 pouch

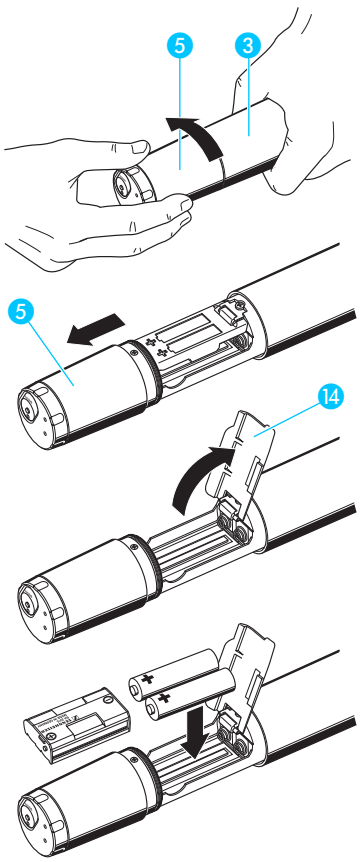
Operating Controls



1. Sound inlet basket
2. Color-coded identification ring for microphone heads
   - green: MD 835 microphone head
   - blue: MD 845 microphone head
   - red: ME 865 microphone head
3. Body of radiomicrophone
4. Battery compartment (not visible from outside)
5. Display section
6. LC display
7. Turnable protective cap for operating controls (shown removed)
   The following operating controls become accessible in turn by turning the protective cap:
8. SET button
9. ▼ button (DOWN)
10. ▲ button (UP)
11. Red LED for operation and battery status indication (ON/LOW BAT)
12. ON/OFF button
13. MUTE switch

Preparing for use

Inserting and changing the battery



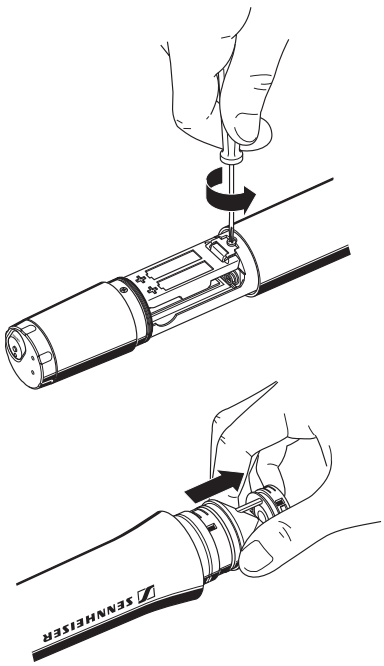
For powering the radiomicrophone, you can either use two 1.5 V AA size batteries or the rechargeable Sennheiser BA 2015 battery pack.

- Unscrew the display section 5 from the radiomicrophone's body 3 by turning it counter-clockwise.
- Slide back the display section 5 as far as it will go.
- Open the battery compartment 14.
- Insert the 9 V PP3 alkaline battery (IEC 6 LR 61) or the BA 2015 accupack. Please observe correct polarity when inserting the battery.
- Close the battery compartment cover 14.
- Push the battery compartment into the radiomicrophone's body.
- Screw the display section tight.

Note:

For rechargeable battery operation of the receiver, only use the BA 2015 rechargeable battery In order to ensure optimum operational reliability. For charging the accupack, only use the L 2015 charger. Both the rechargeable battery and the charger are available as accessories. The rechargeable battery is fitted with an integrated sensor which is – via a third contact – monitored by the electronics of the receiver and the charger. The sensor is necessary for the following control purposes:

- The taking into account of the different voltage characteristics of primary cells (batteries) and accupacks. The battery status indications on the displays, the transmission of transmitter battery status information to the rack-mount receivers and the switch-off thresholds at the end of the operating time are corrected correspondingly. Due to the missing sensor, individual rechargeable battery cells will not be identified as accupacks.
- The monitoring of the rechargeable battery temperature during charging in the L 2015 charger.



Changing the microphone module

- First remove the battery or the rechargeable battery and leave the radiomicrophone open.
- Unscrew the sound inlet basket.
- Remove the screw and put it to one side.
- Remove the microphone module by pulling it out of the housing as shown. Do not touch the contacts!
- Insert the new module.
- Secure the capsule by tightening the screw.

Note:

The screw mechanically secures the microphone capsule. If the screw is missing, malfunctions may occur during tough use.

- Put on the sound inlet basket and identification ring supplied with the new microphone headand screw it tight.
- Insert the batteries/accupack.
- Close the radiomicrophone and put it into operation.

Note:

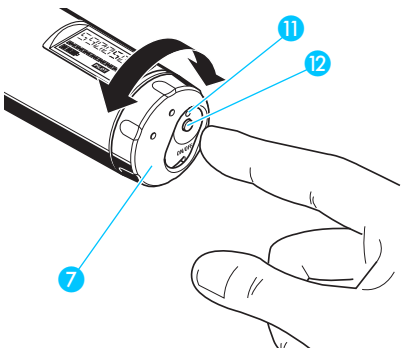
Microphone capsule, sound inlet basket and foam insert form an acoustic unit and must therefore always be exchanged all together. Each microphone head comes with a color-coded identification ring to distinguish different microphone heads from each other (green = MD 835, blue = MD 845, red = ME 865).

Using the radiomicrophone

Switching the radiomicrophone on/off

The radiomicrophone can only be switched off when the standard display is shown on the display panel. When in the operating menu, briefly pressing the ON/OFF button will cancel your entry (ESC function) and return you to the standard display with the last stored settings.

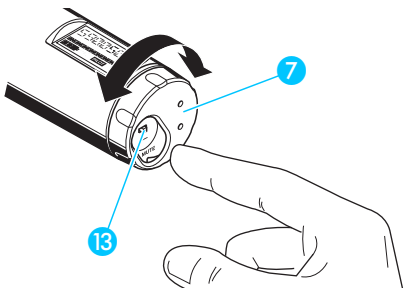
> **Note:**
>
> Remove the batteries or the rechargeable battery when the radiomicrophone will not be used for extended periods of time.



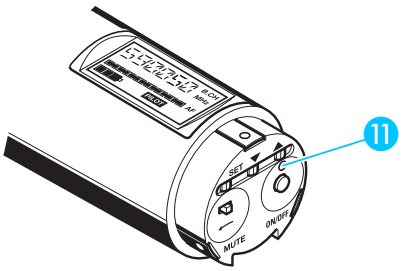
- Turn the protective cap 7 at the bottom of the radiomicrophone so that the ON/OFF button 12 becomes accessible.
- Press the ON/OFF button to switch the radiomicrophone on. The red LED 11 lights up.
- To switch the radiomicrophone off, press the ON/OFF button 12 until "OFF" appears on the display. The red LED 11 goes off.

Muting the radiomicrophone

The radiomicrophone has a MUTE switch that noiselessly mutes the audio signal without switching the radiomicrophone off.



- Turn the protective cap 7 at the bottom of the radiomicrophone so that the MUTE switch 13 becomes accessible.
- Set the MUTE switch to the position 'MUTE'. The "MUTE" display appears on the radiomicrophone's display panel.
- Set the MUTE 13 switch back to the original position to retransmit the audio signal.



Operation and battery status indication

The red LED (LOW BAT/ON) 11 provides information on the current operating state of the radiomicrophone:

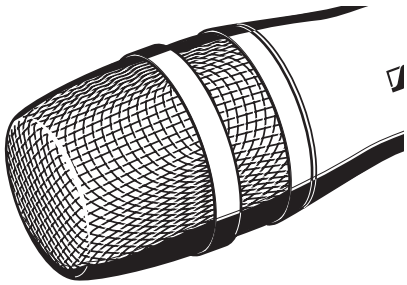
Red LED lit up:	The radiomicrophone is switched on and the capacity of the batteries/BA 2015 rechargeable battery is sufficient.
Red LED flashing:	The batteries are/the BA 2015 rechargeable battery is going flat (LOW BAT)!

Care and maintenance

Use a slightly damp cloth to clean the radiomicrophone from time to time.

Note:

Do not use any cleansing agents or solvents.



To clean the radiomicrophone's sound inlet basket, proceed as follows:

- Unscrew the sound inlet basket (turn counterclockwise) and remove it.
- Remove the foam insert.
- Use a slightly damp cloth to clean the sound inlet basket from the inside and ouside.
- Reinsert the foam insert.
- Replace the sound inlet basket on the radiomicrophone and screw it tight.

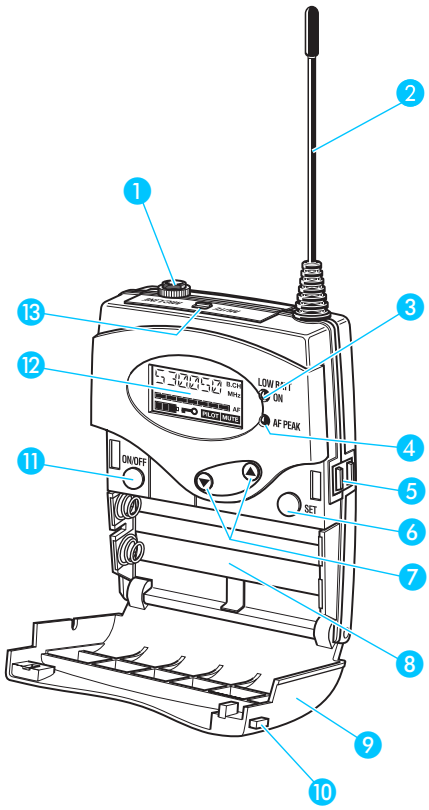
SK 100 G2 / SK 300 G2 / SK 500 G2 bodypack transmitters

Delivery includes

The packaging contains the following items:

- 1 bodypack transmitter
- 2 batteries
- 1 BPP 1 bodypack pouch
- 1 clip-on microphone (please specify when ordering)

Operating Controls

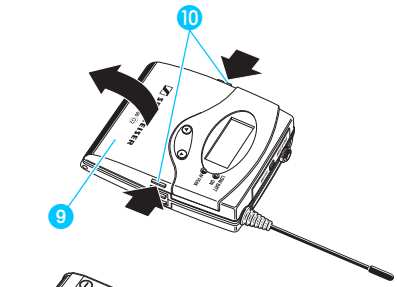


1. Microphone/line input (MIC/LINE), 3.5 mm jack socket
2. Antenna
3. Red LED for operation and battery status indication (ON/LOW BAT)
4. Yellow LED for audio peak (AF PEAK)
5. Charging contacts
6. SET button
7. ▼/▲ rocker button (UP/DOWN)
8. Battery compartment
9. Battery compartment cover
10. Unlocking button
11. ON/OFF button (serves as ESC (cancel) key in the operating menu)
12. LC display
13. MUTE switch

Preparing for use

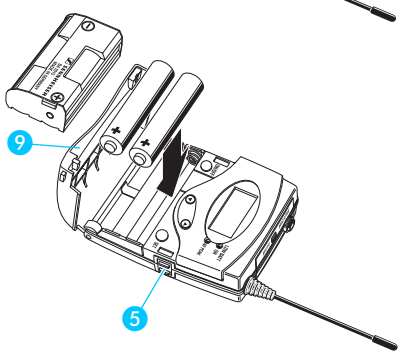
Inserting and changing the battery

For powering the transmitter, two 1.5 V AA size batteries are required.



- Press the two unlocking buttons (10) and open the battery compartment cover (9).
- Insert the two batteries as shown above. Please observe correct polarity when inserting the batteries.
- Close the battery compartment. The battery compartment cover (9) locks into place with an audible click.

Inserting and charging the accupack



The transmitter can also be powered via the rechargeable Sennheiser BA 2015 accupack. Insert the rechargeable battery into the battery compartment as described above.

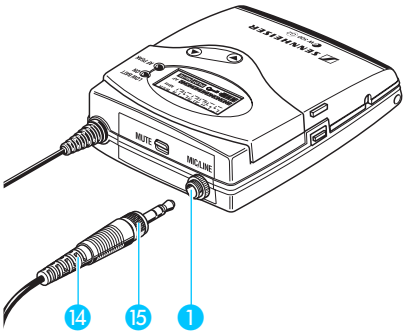
The transmitter has two charging contacts (5) and a sensing contact on its short sides. The rechargeable battery can be recharged while remaining in the transmitter. Insert the transmitter into the L 2015 charger (see "Charging the rechargeable battery BA 2015" on page 24).

Note:

For rechargeable battery operation of the transmitter, only use the BA 2015 rechargeable battery in order to ensure optimum operational reliability. For charging the accupack, only use the L 2015 charger. Both the rechargeable battery and the charger are available as accessories.
The rechargeable battery is fitted with an integrated sensor which is – via a third contact – monitored by the electronics of the transmitter and the charger. The sensor is necessary for the following control purposes:

- The taking into account of the different voltage characteristics of primary cells (batteries) and accupacks. The battery status indications on the displays, the transmission of transmitter battery status information to the rack-mount receivers and the switch-off thresholds at the end of the operating time are corrected correspondingly. Due to the missing sensor, individual rechargeable battery cells will not be identified as accupacks.
- The monitoring of the rechargeable battery temperature during charging in the L 2015 charger.
- The prevention of improper charging of inserted primary cells (batteries). Due to the missing sensor, individual rechargeable battery cells will also not be charged in the L 2015 charger.

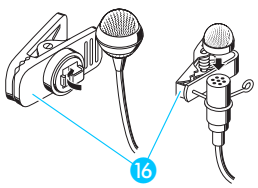
Connecting the microphone/line cable



The microphone/line input is designed for the connection of both condenser microphones and instruments (e.g. guitars). DC powering of the condenser microphones is via the microphone/line input.

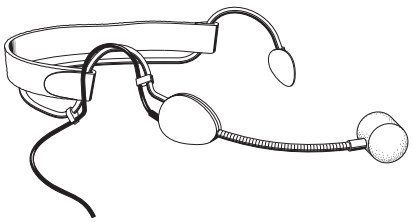
- Connect the 3.5 mm jack plug (14) from the microphone/line cable to the 3.5 mm jack socket (MIC/LINE) (1).
- Lock the 3.5 mm jack plug by screwing down the coupling ring (15)
- Via the operating menu, adjust the sensitivity of the microphone/line input (MIC/LINE).

Attaching the microphones



- Use the microphone clips (16) to attach the ME 2 or ME 4 clip-on microphones to clothing (e.g. tie, lapel).
- Adjust the ME 3 headmic so that a comfortable and secure fit is ensured.

Positioning the microphones

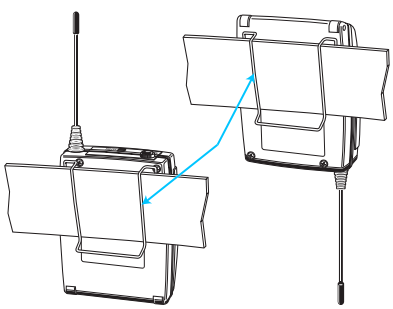


The ME 3 and ME 4 microphones are directional microphones, i.e. their sound inlet should always be directed towards the sound source (e.g. mouth).

The ME 2 with omni-directional pick-up pattern picks up sound equally from all directions. It is the best choice if movements of the speaker's head have to be compensated for. However, it should be attached as close as possible to the sound source.

Adjust the sensitivity correctly for all microphones/usages (see "Adjusting the sensitivity" on page 46).

Attaching the transmitter to clothing



The transmitter is attached to clothing (e.g. belt, waistband) with the supplied belt clip.

The clip is detachable so that you can also attach the transmitter with the antenna pointing downwards. To do so, withdraw the clip from its fixing points and attach it the other way round.

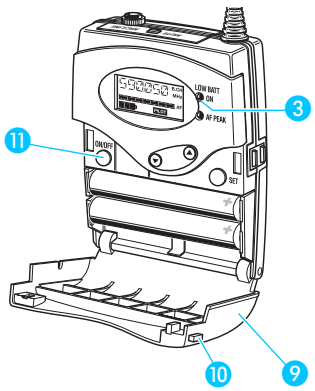
The supplied BPP 1 bodypack pouch helps to protect the transmitter against moisture.

Using the bodypack transmitter

Switching the transmitter on/off

The transmitter can only be switched off when the standard display is shown on the display panel. When in the operating menu, briefly pressing the ON/OFF button will cancel your entry (ESC function) and return you to the standard display with the last stored settings.

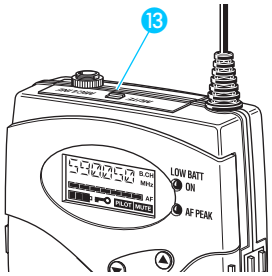
> Note:
>
> Remove the batteries or the rechargeable battery when the transmitter will not be used for extended periods of time.



- Press the two unlocking buttons ⑩ and open the battery compartment cover ⑨.
- Press the ON/OFF button ⑪ to switch the transmitter on. The red LED ③ lights up.
- To switch the transmitter off, press the ON/OFF button ⑪ until "OFF" appears on the display. The red LED ③ goes off.
- Close the battery compartment. The battery compartment cover ⑨ locks into place with an audible click.

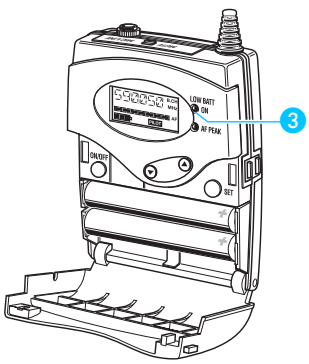
Muting the transmitter

The transmitter has a MUTE switch that noiselessly mutes the transmitter's audio signal without switching the transmitter off.



- Set the MUTE switch ⑫ to the position 'MUTE'. The "MUTE" display appears on the display panel.
- Set the MUTE switch ⑬ back to the original position to retransmit the audio signal.

Operation and battery status indication



The red LED (LOW BAT/ON) ③ provides information on the current operating state of the transmitter:

Red LED lit up:	The transmitter is switched on and the capacity of the batteries/BA 2015 rechargeable battery is sufficient.
Red LED flashing:	The batteries are/the BA 2015 rechargeable battery is going flat (LOW BAT)!

SKP 100 G2 / SKP 500 G2 plug-on transmitters

Delivery includes

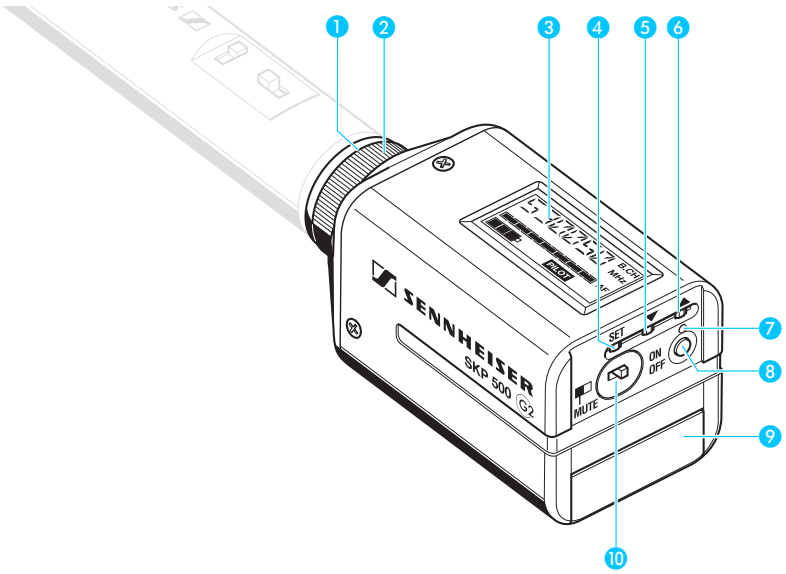
The packaging contains the following items:

- 1 plug-on transmitter
- 2 batteries
- 1 POP 1 plug-on pouch

Suitable microphones (to be ordered separately) for the plug-on transmitter:

- Dynamic microphones
- Condenser microphones with internal power supply
- Condenser microphones with 48 V phantom powering

Operating Controls

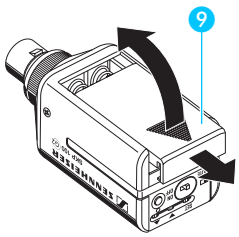


1. Microphone input, XLR-3 socket, (unbalanced)
2. Mechanical locking ring of XLR-3 socket
3. LC display
4. SET button
5. ▼ button (DOWN)
6. ▲ button (UP)
7. Red LED for operation and battery status indication
8. ON/OFF button
9. Battery compartment cover
10. MUTE switch

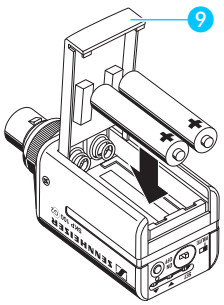
Preparing for use

Inserting and changing the battery

For powering the plug-on transmitter, you can either use two 1.5 V AA size batteries or the rechargeable Sennheiser BA 2015 accupack.



- Slide the battery compartment cover 9 in the direction of the embossed arrow until it clicks audibly and open the cover.



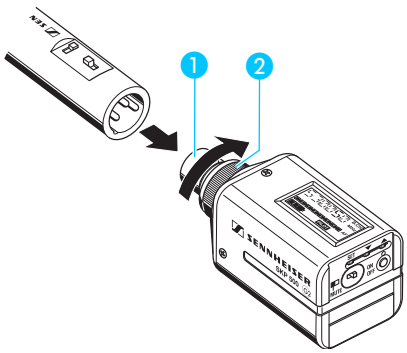
- Insert the two batteries or the BA 2015 rechargeable battery as shown below. Please observe correct polarity when inserting the batteries/accupack.
- Close the battery compartment. The battery compartment cover 9 locks into place with an audible click.

Note:

For rechargeable battery operation of the transmitter, only use the BA 2015 rechargeable battery in order to ensure optimum operational reliability. For charging the accupack, only use the L 2015 charger. Both the rechargeable battery and the charger are available as accessories.
The rechargeable battery is fitted with an integrated sensor which is – via a third contact – monitored by the electronics of the plug-on transmitter and the charger. The sensor is necessary for the following control purposes:

- The taking into account of the different voltage characteristics of primary cells (batteries) and accupacks. The battery status indications on the displays, the transmission of transmitter battery status information to the rack-mount receivers and the switch-off thresholds at the end of the operating time are corrected correspondingly. Due to the missing sensor, individual rechargeable battery cells will not be identified as accupacks.
- The monitoring of the rechargeable battery temperature during charging in the L 2015 charger.

Plugging the transmitter onto the microphone

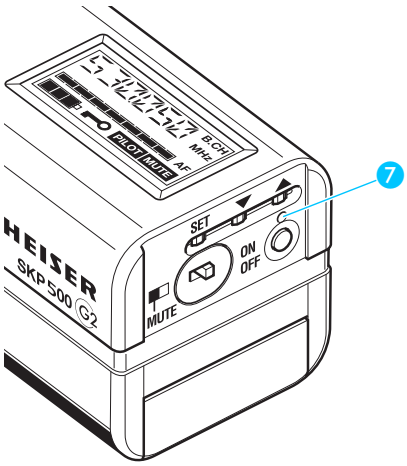


- Plug the transmitter's XLR-3 connector (1) onto the microphone's XLR-3 socket.
- Tighten the locking ring (2).

Note:

The transmitter uses the microphone body as an antenna – therefore only microphones with a metal casing should be used for best signal transmission.

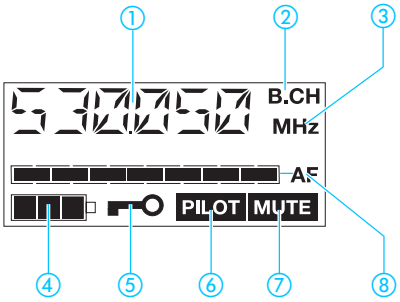
Betriebs- und Batterieanzeige



The red LED (LOW BAT/ON) (7) provides information on the current operating state of the plug-on transmitter:

Red LED lit up:	The plug-on transmitter is switched on and the capacity of the batteries/BA 2015 rechargeable battery is sufficient.
Red LED flashing:	The batteries are/the BA 2015 rechargeable battery is going flat (LOW BAT)!

LC display panel of the evolution wireless transmitters, G 2



LC display panel

① Alphanumeric display

② "B.CH" – appears when the channel bank and the channel number are displayed

③ "MHz" – appears when the frequency is displayed

④ 4-step battery status display

⑤ Lock mode icon (lock mode is activated)

⑥ "PILOT" display (pilot tone transmission is activated)

⑦ "MUTE" display (audio input is muted)

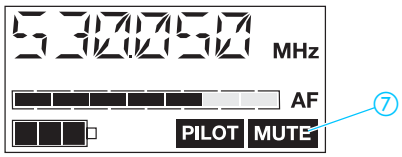
⑧ 7-step level display for audio signal "AF"

Battery status indication

The 4-step battery status display ④ on the display panel provides information on the remaining battery/BA 2015 rechargeable battery capacity:

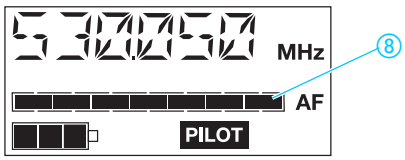
3 segments:	capacity approx. 100 %
2 segments:	capacity approx. 70 %
1 segment:	capacity approx. 30 %
Battery icon flashing:	LOW BAT

"MUTE" display



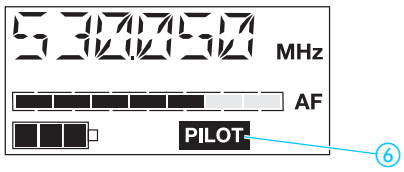
The "MUTE" display ⑦ appears on the display panel when the plug-on transmitter is muted.

Modulation display



The level display for audio signal "AF" ⑧ shows the modulation of the plug-on transmitter.

When the audio input level is excessively high, the level display for audio signal "AF" ⑧ shows full deflection for the duration of the overmodulation.



"PILOT" display

The "PILOT" display ⑥ appears on the display panel when the pilot tone transmission is activated.

Display backlighting

After pressing a button, the display remains backlit for approx. 15 seconds.

The operating menu of the transmitters evolution wireless series G 2

With the exception of one transmitter, the operating menu of the transmitters of the evolution wireless G2 series is equal for all transmitters.

Overview of menus

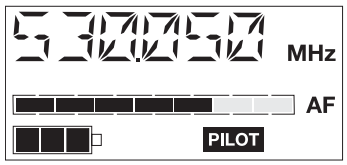
Display	Function of the menu
BANK	Switching between channel banks
CHAN	Switching between the channels in a channel bank
TUNE	Setting a transmission frequency for the channel bank "U" (user bank)
SENSIT	Adjusting the sensitivity (AF)
DISPLY	Selecting the standard display
NAME	Entering a name
RESET	Loading the factory-preset default settings
PILOT	Activating/deactivating the pilot tone transmission
LOCK	Activating/deactivating the lock mode
EXIT	Exiting the operating menu and returning to the standard display

The buttons

Buttons	Mode	To...
ON	Standard display	switch the transmitter on and off
	Operating menu	cancel the entry and return to the standard display
	Setting mode	cancel the entry and return to the standard display
SET	Standard display	get into the operating menu
	Operating menu	get into the setting mode of the selected menu
	Setting mode	store the settings and return to the top menu level

▲/▼	Standard display	without function
	Operating menu	change to the previous menu (▲) or change to the next menu (▼)
	Setting mode	adjust the setting of the selected menu: option (▲/▼)

Working with the operating menu



By way of example of the "TUNE" menu, this section describes how to use the operating menu.

After switching the transmitter on, the standard display is shown on the display panel.

Getting into the operating menu

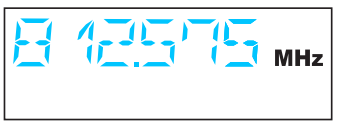
▶ Press the SET button to get from the standard display into the operating menu. The last selected menu flashes on the display.

Selecting a menu

▶ Press the ▲/▼ buttons to select the menu you would like to adjust the setting.

▶ Press the SET button to get into the setting mode of the selected menu. The current setting that can be adjusted flashes on the display.

Adjusting a setting



▶ Press the ▲/▼ buttons to adjust the setting.

▶ By briefly pressing the ▲/▼ buttons, the display jumps either forwards or backwards to the next setting. In the "CHAN", "TUNE" and "NAME" menu, the ▲/▼ buttons feature a "fast search" function. If you hold down a button, the display cycles continuously, allowing you to get fast and easily to your desired setting.

Storing a setting

▶ Press the SET button to store the setting. "STORED" appears on the display, indicating that the setting has been stored. The display then returns to the top menu level.

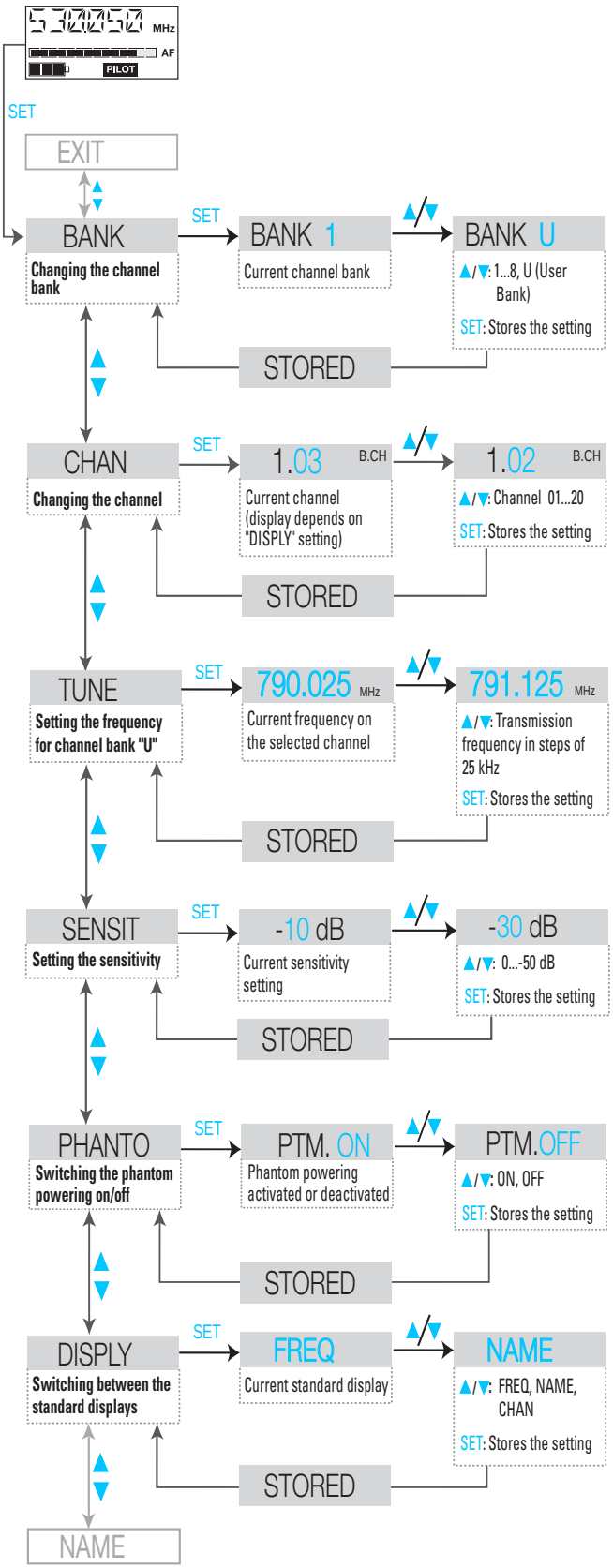
▶ With most menus, new settings become effective immediately without having to be stored. An exception are the "BANK",

"CHAN", "TUNE" and "RESET" menus. With these menus, new settings only become effective after they have been stored ("STORED" appears on the display, indicating that the setting has been stored).

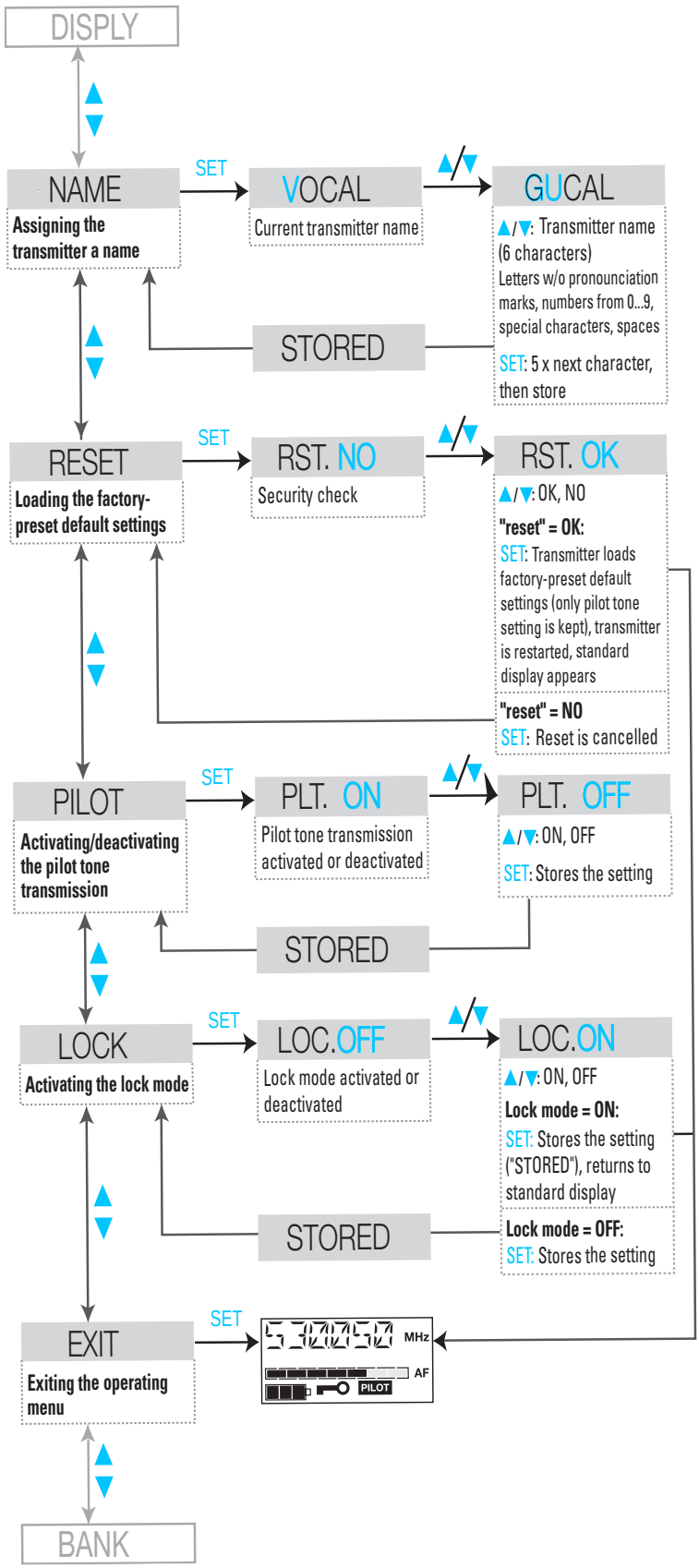
Exiting the operating menu

- Select the "EXIT" menu to exit the operating menu and to return to the standard display.
- When in the operating menu, briefly pressing the ON/OFF button will cancel your entry (ESC function) and return you to the standard display with the last stored settings.

Overview of the operating menu of the transmitters



Menu "PHANTO" only SKP 500


DISPLY
NAME
Assigning the transmitter a name
SET
VOCAL
Current transmitter name
▲/▼
GUCAL
▲/▼: Transmitter name (6 characters)
Letters w/o pronounciation marks, numbers from 0...9, special characters, spaces
SET: 5 x next character, then store
STORED
RESET
Loading the factory-preset default settings
SET
RST. NO
Security check
▲/▼
RST. OK
▲/▼: OK, NO
"reset" = OK:
SET: Transmitter loads factory-preset default settings (only pilot tone setting is kept), transmitter is restarted, standard display appears
"reset" = NO
SET: Reset is cancelled
PILOT
Activating/deactivating the pilot tone transmission
SET
PLT. ON
Pilot tone transmission activated or deactivated
▲/▼
PLT. OFF
▲/▼: ON, OFF
SET: Stores the setting
STORED
LOCK
Activating the lock mode
SET
LOC.OFF
Lock mode activated or deactivated
▲/▼
LOC.ON
▲/▼: ON, OFF
Lock mode = ON:
SET: Stores the setting ("STORED"), returns to standard display
STORED
Lock mode = OFF:
SET: Stores the setting
EXIT
Exiting the operating menu
SET
MHz
AF
PILOT
BANK

Adjustment tips for the operating menu

BANK

Switching between channel banks

Via the "BANK" menu, you can switch between the transmitter's nine channel banks. Each of the channel banks "1" to "8" has up to 20 switchable channels that are factory-preset to a transmission frequency. The channel bank "U" (user bank) has up to 20 switchable channels to store your selection out of 1440 transmission frequencies that are freely selectable within the preset frequency range.

When switching from one channel bank to another, the channel with the lowest channel number is automatically displayed.

Note:

When using the transmitter with the tourguide system, the channel bank "8" must be selected.

CHAN

Switching between the channels in a channel bank

Via the "CHAN" menu, you can switch between the different channels in a channel bank.

TUNE

Selecting the frequencies to be stored in the channel bank "U"

Via the "TUNE" menu, you can select the frequencies to be stored in the channel bank "U" (user bank).

When you have selected one of the channel banks "1" to "8" and then select the "TUNE" menu, the transmitter automatically switches to channel 01 of the channel bank "U".

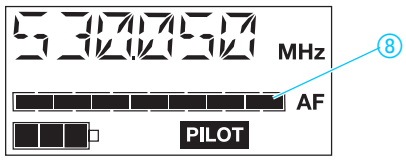
In this case, "U.01" briefly appears on the display.

- Use the ▲/▼ buttons to select the desired transmission frequency. Transmission frequencies are tunable in 25-kHz steps within a switching bandwidth of 36 MHz max. For intermodulation-free frequencies, please refer to the enclosed frequency table.

SENSIT

Adjusting the sensitivity

Via the "SENSIT" menu, you can adjust the transmitter's input sensitivity.



The input sensitivity is adjusted too high when close talking distances, speakers with loud voices or loud music passages cause overmodulation in the transmission link. When the audio input level is excessively high (AF peak), the level display for audio signal (AF) ⑧ shows full deflection.

If, on the other hand, the sensitivity is adjusted too low, the transmission link will be undermodulated, which would result in a signal with high background noise.

The sensitivity is correctly adjusted when the level display for audio signal "AF" ⑧ shows full deflection only during the loudest passages.

Note:

For monitoring the adjusted sensitivity, the transmitter's level display for audio signal "AF" always indicates the audio level – even if the transmitter is muted.

The following figures are a guide to the best settings:

- Loud music/vocals: –30 to –20 dB
- Presentations: –20 to –10 dB
- Interviews: –10 to 0 dB

In order to be able to use highly sensitive directional condenser microphones, the plug-on transmitter offers a sensitivity range extended by 20 dB.

With the transmitter plugged onto a directional condenser microphone, the following figures are a guide to the best settings:

- Loud music/vocals: –50 to –40 dB
- Presentations: –40 to –30 dB
- Interviews: –30 to –20 dB

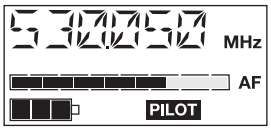
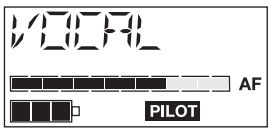
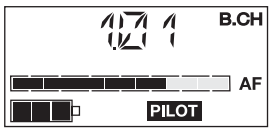
PHANTO

Switching the phantom powering on/off (SKP 500 G2 only)

The plug-on transmitter can supply condenser microphones without internal power supply with 48 V phantom powering (P 48). The phantom powering can be switched on or off via the "PHANTO" menu. Please note: Dynamic microphones can be operated in phantom powering mode without harm. However, if no condenser microphone module is being used, you should switch off the phantom powering. With the phantom powering switched on, the operating time of the batteries or the BA 2015 rechargeable battery will be reduced.

DISPLY — Selecting the standard display

Via the "DISPLY" menu, you can select the standard display:

Selectable standard display	Contents of standard display
"FREQ"	
"NAME"	
"CHAN"	

NAME — Entering a name

Via the "NAME" menu, you can enter a freely selectable name for the transmitter. The name can be displayed on the standard display and can consist of up to six characters such as:

- letters (without pronounciation marks),
- numbers from 0 to 9,
- special characters e.g. () - . _ and spaces.

To enter a name, proceed as follows:

After you have entered into the setting mode of the menu, the first segment starts flashing on the display.

- ▶ With the ▲/▼ buttons you can now select a character. By briefly pressing a button, the display jumps either forwards or backwards to the next character. If you hold down a button, the display starts cycling continuously.
- ▶ Press the SET button to change to the next segment and select the next character.
- ▶ Have you entered the name completely? Press the SET button to store your setting and to return to the top menu level.

RESET — Loading the factory-preset default settings

Via the "RESET" menu, you can load the factory-preset default settings. Only the selected setting for the pilot tone remains unchanged. After the reset, the transmitter is restarted and the standard display is shown on the display panel.

PILOT

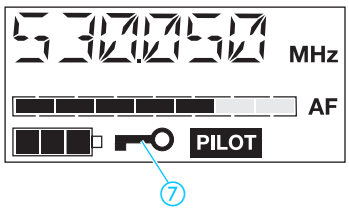
Activating/deactivating the pilot tone transmission (PILOT)

Via the "PILOT" menu, you can activate or deactivate the pilot tone transmisssion.

- When using the transmitter with the tourguide system, the pilot tone transmission must be switched off.

LOCK

Activating/deactivating the lock mode



Via the "LOCK" menu, you can activate or deactivate the lock mode.

The lock mode prevents that the transmitters are accidentally programmed or switched off during operation. The lock mode icon ⑦ on the display indicates that the lock mode is activated.

To deactivate the lock mode, first press the SET button and then press the ▲/▼ buttons to select "LOC.OFF". If you confirm your selection by pressing the SET button, the buttons can be operated as usual.

EXIT

Exiting the operating menu

Via the "EXIT" menu, you can exit the operating menu and return to the standard display.

Troubleshooting

Error checklist

Problem	Possible cause	Possible solution
No operation indication	Batteries are flat or rechargeable battery is flat	Replace the batteries or recharge the accupack
No audio signal	Transmitter and receiver are not on the same frequency.	Set transmitter and receiver to the same frequency .
	The transmitter is out of range.	Reduce the distance between transmitter and receiver.
RF signal available, but no audio signal	The transmitter's microphone is muted (''MUTE'')	Deactivate the muting function
	Defective microphone	Replace microphone
	Defective headphones	Replace headphones
Audio signal has a high level of background noise	Transmitter sensitivity is adjusted too low	see ''Adjusting the sensitivity'' on page 46
Audio signal is distorted	Transmitter sensitivity is adjusted too high	see ''Adjusting the sensitivity'' on page 46
L 2015: red LED flashes besides a charging compartment	No contact with the rechargeable battery (contacts are dirty or rechargeable battery is not inserted correctly)	Clean the contacts or insert the rechargeable battery correctly
	rechargeable battery is defective (overaged or defective rechargeable battery cells)	Replace the accupack
	rechargeable battery temperature is too low or too high	Always charge the rechargeable battery at room temperature
	Batteries (primary cells) or individual rechargeable batteries have been inserted	Only charge the BA 2015 accupack!

If still operating problems with your transmission installation occur, please contact your local Sennheiser agent for assistance.

Recommendations and tips

... for the receiver EK 1038

- Transmission range depends to a large extent on location. There should be a "free line of sight" between transmitting and receiving antennas.

... for the radiomicrophones

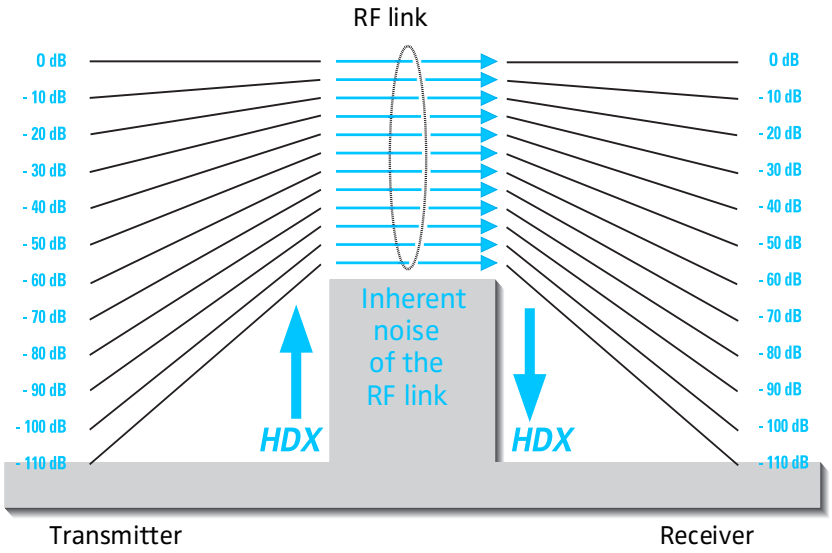
- Hold the radiomicrophone in the middle of the microphone body. Holding it close to the sound inlet basket will influence the microphone's pick-up pattern, holding it at the lower part of the body will reduce the transmitter's range.
- You can vary the bass reproduction by increasing/decreasing the talking distance to the microphone.
- For best results, make sure that the transmitter sensitivity is correctly adjusted.

...for the bodypack transmitters

- Make sure that the antenna and the microphone cable do not cross.
- The antenna should hang or stand freely and be at least 1 cm away from the body. The antenna must not be in direct contact with the skin.
- For best results, make sure that the transmitter sensitivity is correctly adjusted.

HDX noise reduction

Progress you can hear.



This product family is equipped with HDX, the Sennheiser noise reduction system that reduces RF interference. It increases the signal-to-noise ratio in wireless audio transmission to more than 110 dB.

HDX is a wideband compander system which compresses the audio signal in the transmitter in a 2:1 ratio (related to dB) to lift it above the inherent noise floor of the RF link. A 110 dB dynamic range signal is thus transmitted with an effective dynamic range of only 55 dB, which is above the 60 dB noise floor of the RF link. In the receiver the signal is expanded in an identical and opposite way in a 1:2 ratio to restore the original signal, at the same time reducing the RF noise to below the noise floor of the receiver.

HDX has been specially developed for high quality radiomicrophone systems.

Note:

Only transmitters and receivers that are equipped with HDX can work correctly with each other. If non HDX equipment was mixed with HDX, the dynamic range would be drastically reduced and the transmission would sound blunt and flat or shrill.

Accessories and spare parts

Only use original Sennheiser accessories and spare parts.

ATTENTION:

Components from other manufacturers (e.g. for power supply or accupack) may cause damage to the units and will invalidate the warranty!

The following accessories are available from your authorized dealer:

EK 1038 receiver

BA 2015	Accupack
L 2015	Charger for BA 2015 accupack
GP 03	Headphones (stereo jack plug)
EZT 1011	Induction loop

L 2015 quick charger

NT 1	Mains unit for powering a singleL 2015 charger	with EU mains connector, 230 V
NT 1-UK		with UKmains connector, 230 V
NT 1-120		with USA mains connector, 110 V
NT 3	Mains unit for powering threeL 2015 chargers	with EU mains connector, 230 V
NT 3-UK		with UK mains connector, 230 V
NT 3-120		with USA mains connector, 110 V

Transmitters of the evolution wireless series, G 2

SKM 100 G2 / SKM 300 G2 / SKM 500 G2 radiomicrophone

MD 835	Microphone head (green identification ring) dynamic, cardioid
MD 845	Microphone head (blue identification ring) dynamic, super-cardioid
ME 865	Microphone head (red identification ring), condenser, super-cardioid
MMD 935	Microphone head (silver identification ring) dynamic, cardioid

MZW 1	Wind- and popshield
MZQ 1	Microphone clamp
BA 2015	Accupack
L 2015	Charger for BA 2015 rechargeable battery
KEN	8 color-coded identification caps for radiomicrophone

SK 100 G2 / SK 300 G2 / SK 500 G2 bodypack transmitter

ME 2	Clip-on microphone, condenser, omni-directional
MKE 2-ew	Clip-on microphone , black or beige, condenser, omni-directional
ME 4	Clip-on microphone, condenser, cardioid
ME 3	Headmic, condenser, super-cardioid
DC 2	DC power adapter, for external 12 V DC powering (instead of two AA size batteries)
BA 2015	Accupack
L 2015	Charger for BA 2015 accupack

SKP 100 G2 / SKP 500 G2 plug-on transmitter

BA 2015	Accupack
L 2015	Charger for BA 2015 accupack
POP 1	Plug-on pouch

Specifications

Temperature range	-10°C to +55°C

EK 1038 receiver

Receiving frequencies	20
Frequency range	830–866 MHz (range E) (channel assignment: see table below)
Switching bandwidth	36 MHz
Modulation	wideband FM
Nominal/peak deviation	±24 kHz / ±48 kHz
RF squelch	4 steps: SQ OFF SQ LO: 5 dBµV SQ MID: 15 dBµV SQ HI: 25 dBµV
Adjacent channel rejection	> 70 dB
Noise reduction system	Sennheiser HDX
AF frequency response	40 – 15.000 Hz
Signal-to-noise ratio	> 91 dB(A)
THD at nominal deviation and 1 kHz	< 1 %, typ. 0.5 %
AF output (headphones)	3.5 mm stereo jack socket
AF output power (peak deviation, 1 KHz_{NF}) PHONES	2 x ≥ 100 mW at 32 Ω
Min. terminating impedance of the headphones	2 x 8 Ω
Power supply	BA 2015 rechargeable battery with NiMH cells
Operating timewith BA 2015 accupack with batteries	approx. 6-10 hours depending on volume approx. 6-10 hours depending on volume
Dimensions	82 x 64 x 24 mm
Weight incl. accupack	approx. 185 g

L 2015charger

Input voltage:	10 - 20 V DC via hollow jack socket
Hollow jack:	
Input current:	400 - 750 mA
Charging voltage:	2 x 2.9 V
Charging current:	2 x 700 mA
Charging principle:	∆U method Deep discharge recovery charge Trickle charge rechargeable battery temperature monitoring Over/undercharge detection Charging time limit (max. 6 h)
Charging time:	approx. 2.5 h with a totally discharged rechargeable battery and at room temperature, automatic security switch-off after 6 h at the latest
BA 2015 battery type:	2 x 1.2 V 1500 mAh, NiMH
Dimensions:	approx. 145 x 80 x 110 mm
Weight:	approx. 310 g

Plug-in mains units

Plug-in mains unit for 1 charger	NT 1-EU (Cat. No. 09828), 230 V ±10 %, 1,8 A, 50 Hz NT 1-UK (Cat. No. 04787), 230 V ±10 %, 1,9 A, 50 Hz
Plug-in mains unit for up to three chargers	NT 3-EU (Cat. No. 04863), 230 V ±10 %, 1,8 A, 50 Hz NT 3-UK (Cat. No. 04864), 230 V ±10 %, 1,9 A, 50 Hz

evolution wireless transmitters, G 2

Modulation	wideband FM
Frequency ranges	518–554, 626–662, 740–776, 786–822, 830–866 MHz
Transmission/receiving frequencies	8 channel banks with up to 20 factory-preset channels each 1 channel bank with up to 20 freely selectable channels (1440 frequencies, tunable in steps of 25 kHz)
RF output power at 50 Ω	typ. 30 mW
Power supply	2 AA size batteries, 1.5 V
power consumption at nominal voltage	≤170 mA
Operating time	>8 h (SKP 500 G2 with P48 >5 h)

SKM 100 G2 / SKM 300 G2 / SKM 500 G2 radiomicrophone

Dimensions	∅ 50 x 225 mm
Weight	approx. 450 g

SK 100 G2 / SK 300 G2 / SK 500 G2 bodypack transmitter

Max. input voltage (at peak deviation)	MICRO: 1.8 V_{rms} (unbalanced) LINE: 2.4 V_{rms}
Dimensions	82 x 64 x 24 mm
Weight	approx. 158 g

SKP 100 G2 / SKP 500 G2 plug-on transmitter

Max. input voltage (at peak deviation)	MICRO: 1.2 V_{rms} (unbalanced)
Dimensions	105 x 43 x 43 mm
Weight	approx. 195 g

Channel assignment

			evolution wireless G2, generation 2		
		EK 1038	SKM 100 G2 SK 100 G2 SKP 100 G2	SKM 300 G2 SK 300 G2	SKM 500 G2 SK 500 G2 SKP 500 G2
channel	range E frequency	channel bank 8 menu "TUNE"	channel bank 8 menu "CHAN"	channel bank 8 menu "CHAN"	channel bank 8 menu "CHAN"
1	863,100	1	1	1	1
2	863,500	2	2	2	2
3	864,300	3	3	3	3
4	864,900	4	4	4	4
5	854,100	5		5	5
6	854,600	6		6	6
7	855,300	7		7	7
8	856,200	8		8	8
9	857,300	9			9
10	859,700	10			10
11	861,150	11			11
12	861,600	12			12
13	838,100	13			13
14	839,400	14			14
15	841,100	15			15
16	849,100	16			16

You must check whether or not the product needs to be licensed by the national approval authorities.

SENNHEISER

EU-Konformitätserklärung
EC Declaration of Conformity

Sennheiser electronic GmbH & Co. KG
Am Labor 1
D-30900 Wedemark

Erklärt in alleiniger Verantwortung, dass das Produkt:
Declare under sole responsibility that the product:

Modell: Pocket Receiver
Typ EK 1038

Nach den folgenden Richtlinien und unter Anwendung der harmonisierten Normen entwickelt, konstruiert und gefertigt worden ist. / To which this declaration relates, is in conformity with the following requirements:

Low Voltage Directive 73/23/EEC, new 93/68/EEC,

Comprising the harmonized standards

IEC / EN 60065 - Audio, video and similar electronic apparatus - Safety requirements

**Electromagnetic compatibility 89/336/EEC,
and corresponding article 3.1.2 R&TTE 1999/5/EEC**

Comprising the harmonized standards

ETSI EN 301 489-1/-9 - Electromagnetic compatibility and Radio spectrum Matters (ERM) – Electro Magnetic Compatibility (EMC) standard for radio equipment and services (CETECOM Test Report: 2-3398-01-12/03)

Radio spectrum R&TTE 1999/5/EEC, corresponding article 3.2

Comprising the harmonized standards

ETSI EN 300 422-1/-2 - Radio Equipment and Systems (RES); for wireless microphones in the 25 MHz to 3 GHz frequency range. (CETECOM Test Report: 2-3398-01-01/03)

Qualitätszusicherung: Der Herstellerbetrieb ist nach ISO 9001 : 2000 zertifiziert
Quality Assurance: The product is produced by a manufacturing organisation on ISO 9001 : 2000 level

SENNHEISER
Sennheiser electronic GmbH & Co. KG
Am Labor 1 D-30900 Wedemark
Postfach 100 264 D-30892 Wedemark

Wedemark, 2005-02-04

Dr. Heinrich Esser
President R&D

EG-Konformitäts-Erklärung / EC Certificate of Conformity / Déclaration de conformité pour la CEE
Certificato di conformitá comunitario / Declaración de Conformidad / EG-Conformiteitsverklaring

SENNHEISER electronic GmbH & Co. KG

Am Labor 1, D-30900 Wedemark

erklären, dass die Produkte / declare that these devices / déclarons que ces appareils
declaramos que estos aparatos / dichiaria che questi apparecchi / verklaren, dat deze toestelen

SK 100/300/500 G2	**Pocket Transmitter**
SKM 100/300/500 G2	**Transmitter, Hand-held**
SKP 100/500 G2	**Plug-On-Transmitter**

den einschlägigen Anforderungen der EG-Richtlinie 89/336/EEC bzw.
der R&TTE-Direktive 1999/5/EC entsprechen.
Zur sachgemäßen Umsetzung der in den EG-Richtlinien genannten Anforderungen wurden
folgende Normen herangezogen:

conform to the basic requirements of EEC Directive 89/336/EEC resp. R&TTE Directive 1999/5/EC.
To effect correct application of the requirements stated in the EEC Directives,
the following standards were consulted:

sont conformes aux prescriptions fondamentales dans la Directive de la CEE 89/336/EEC or
la Directive R&TTE 1999/5/EC.
Pour mettre en pratique dans la règle de l'art les prescriptions des Directives de la CEE, il a été
tenu compte des normes suivantes:

complen los requimientos básicos de la normativa de la CEE 89/336/EEC resp. de la
normativa R&TTE 1999/5/EC.
Con il fin de realizar de forma adecuada los requirimientos referidos en las normativas de
la CEE fueron consaltadas las siguientes normativas:

sono conformi alla normativa 89/336/EEC resp. alla normativa R&TTE 1999/5/EC.
Per un'appropriato risconto nell'ambito della normativa CEE sono state consultate le seguenti normative:

evereenkomt met de basiseisen van de EG-Richtlijn 89/336/EEC resp. de EG-Richtlijn 1999/5/EC.
Om de eisen, die in de EG-Richtlijnen vermeld zijn, in juiste vorm om te zetten,
zijn van volgende normen gebruik gemaakt:

ETS 300 445
ETS 300 422

Wedemark, Oct, 2003

Klaus Willemsen
Key Projects
Product Marketing

Important:
Before putting the device into operation, please observe the respective country-specific regulations!

CE 0682

The guarantee period for this Sennheiser product is 24 months from the date of purchase. Excluded are accessory items, rechargeable or disposable batteries that are delivered with the product; due to their characteristics these products have a shorter service life that is principally dependent on the individual frequency of use.

The guarantee period starts from the date of original purchase. For this reason, we recommend that the sales receipt be retained as proof of purchase. Without this proof (which is checked by the responsible Sennheiser service partner) you will not be reimbursed for any repairs that are carried out.

Depending on our choice, guarantee service comprises, free of charge, the removal of material and manufacturing defects through repair or replacement of either individual parts or the entire device. Inappropriate usage (e.g. operating faults, mechanical damages, incorrect operating voltage), wear and tear, force majeure and defects which were known at the time of purchase are excluded from guarantee claims. The guarantee is void if the product is manipulated by non-authorised persons or repair stations.

In the case of a claim under the terms of this guarantee, send the device, including accessories and sales receipt, to the responsible service partner. To minimise the risk of transport damage, we recommend that the original packaging is used. Your legal rights against the seller, resulting from the contract of sale, are not affected by this guarantee.

The guarantee can be claimed in all countries outside the U.S. provided that no national law limits our terms of guarant

Right of modifications reserved

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